

expressed in a *Xenopus* oocyte, wherein said nucleic acid selectively hybridizes under stringent conditions to a sequence of SEQ ID NO:21, wherein the hybridization reaction is incubated overnight at 37°C in a solution comprising 40% formamide, 1 M NaCl and 1% SDS, and washed at 55°C in a solution comprising 0.5x SSC.

101. The isolated nucleic acid of claim 100, wherein said nucleic acid selectively hybridizes under stringent conditions to a sequence of SEQ ID NO:15, wherein the hybridization reaction is incubated overnight at 37°C in a solution comprising 40% formamide, 1 M NaCl and 1% SDS, and washed at 55°C in a solution comprising 0.5x SSC.

102. The isolated nucleic acid of claim 100, wherein said nucleic acid encodes a protein having an amino acid sequence selected from the group consisting of SEQ ID NO:2 and SEQ ID NO:19.

103. The isolated nucleic acid of claim 100, wherein said nucleic acid has a nucleotide sequence selected from the group consisting of SEQ ID NO:15 and SEQ ID NO:21.

104. An expression vector comprising a nucleic acid of claim 100.

105. A host cell transfected with the vector of claim 104.

106. A method of making an SK2 calcium-activated potassium channel protein, comprising culturing the host cell of claim 105 under conditions permitting expression of said nucleic acid encoding said channel protein.

REMARKS

With this amendment, claims 100-106 are pending in the present application and presented for examination. Applicants thank Examiner Pak and Examiner Eyler for the helpful telephone conversation of December 6, 2001 with Applicants' undersigned attorney, Annette Parent, in which the restriction requirement was discussed. In the interview,